ACTIVITIES OF THE FRASER RIVER JOINT ADVISORY BOARD

NINETEENTH ANNUAL REPORT

APRIL 1, 1986 TO MARCH 31, 1987

CANADA — BRITISH COLUMBIA AGREEMENT, MAY 24, 1968

FLOOD CONTROL IN THE FRASER VALLEY

FRASER RIVER JOINT ADVISORY BOARD

BRITISH COLUMBIA
T.R.Johnson
P.M.Brady
J.D.C.Fuller

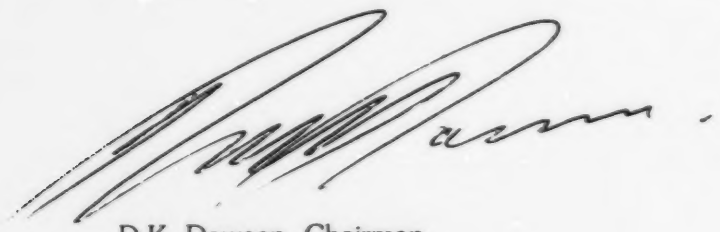
CANADA
D.K.Dawson
E.M.Clark
D.L.Deans

March 31, 1987

Dear Mister Minister:

The Fraser River Joint Advisory Board herewith submits its 19th Annual Report for the year ending March 31, 1987 in accordance with the requirements of paragraph 18(a) of the May 24th, 1968 Agreement.

Respectfully submitted



D.K. Dawson, Chairman,
Fraser River Joint Advisory Board

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INTRODUCTION

The Federal-Provincial Agreement governing this Program was signed on May 24, 1968 to provide flood protection for the Lower Fraser Valley in British Columbia over a ten-year period. The Agreement provides for rehabilitation of river and sea dykes, for bank protection to ensure safety of dykes against erosion, and for pumping capacity and main drains to prevent flooding behind the dykes as a result of runoff. Projects approved must be practical, engineeringly sound and economically justified. As a result of increased costs all drainage works have been deferred to give first priority to completion of the dykes and bank protection necessary to prevent major flood damages.

The Agreement has been amended five times, primarily to provide additional funds and extend the termination date to March 31, 1995. The current level of funding is $80.5 million from each government or $161.0 million in total. The projected annual funding is approximately $2.5 million from each government.

Up to March 31, 1987 expenditures under the Program amounted to $124.4 million.

Program Project Sign

Meetings

The 35th Board Meeting was held on January 9, 1987.

Board Submissions

A Board submission to the Ministers recommending an increase in funding for the District of Kent was approved. The supplementary funding provided $500,000 for the construction of bank protection at site 'H' in the Harrison Mills area.

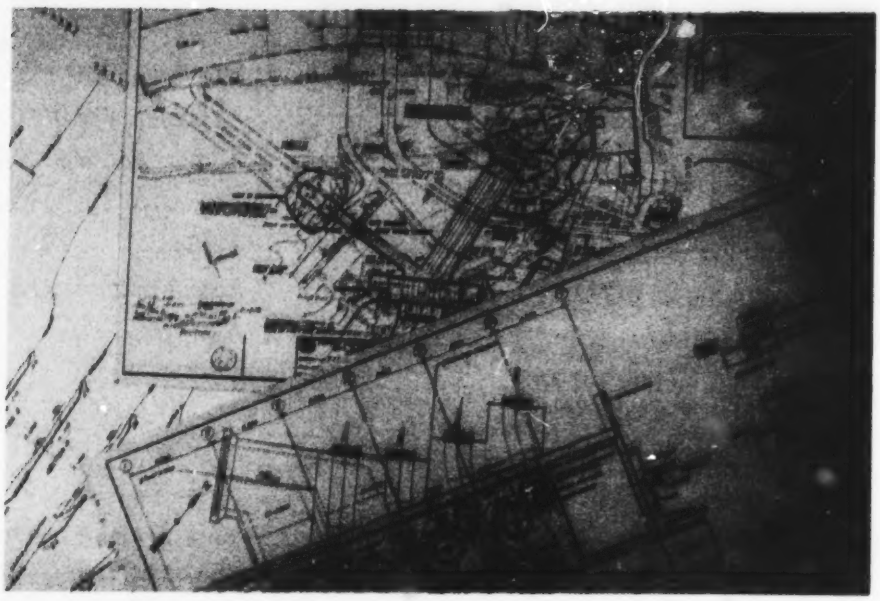
For emergency bank protection works, the Board approved $100,000 for site 'G-1' in Kent, $100,000 for site '7' in Chilliwack and $100,000 to cover miscellaneous locations.

APPLICATIONS TO PROGRAM

Project	Date of Application
Kent	March 3, 1969
Pitt Meadows	March 3, 1969
Richmond	March 3, 1969
Surrey: Dams Sea Dykes Upstream Dykes South Westminster Area	May 6, 1969
Matsqui	May 15, 1969
Abbotsford (Sumas)	May 15, 1969
Chilliwack	August 1, 1969
Delta	August 1, 1969
Mission	August 4, 1969
Maple Ridge	October 1, 1969
Harrison Hot Springs	February 27, 1970
Vedder River	April 10, 1970
City of Port Coquitlam and District of Coquitlam	April 30, 1970
Colony Farm	August 24, 1970
Burnaby	November 26, 1970
New Westminster	December 18, 1970
Chilliwack Indian Reserves Nos. 3 and 4	March 8, 1971
Seabird Island	October 8, 1971
Langley	March 2, 1972
Dewdney Area Improvement District	April 30, 1973
Kamloops	October 28, 1973
East and West Nicomen Dyking District	February 15, 1974
Glen Valley Dyking District	February 20, 1974
Nicomen Island Improvement District	September 13, 1974

ENGINEERING

Engineering services for Richmond, Coquitlam, Surrey, Kamloops, Abbotsford, Kent, Mission, Pitt Meadows, Chilliwack, Delta, South Dewdney and Glen Valley projects were provided by outside consulting companies. Services for Matsqui, Vedder River, Chilliwack and Kent bank protection work were provided by provincial government staff.



Typical Contract Drawings

TABLE I

PROJECT DESIGN STATUS

Local Authority	Project No.	Project Description	Progress for Final Design*
District of Kent	1.1	Upgrading of dykes, bank protection, drainage discharge structures, and main drains in the Agassiz and Harrison Mills areas.	Dyke design is complete. Reconstruction of Duncan-Bateson floodbox is complete.
District of Pitt Meadows	2.1	Upgrading of dykes, bank protection, drainage discharge structures, and main drains in the Maple Ridge Dyking District.	Dyke design is complete.
	2.2	Upgrading of dykes, bank protection, drainage discharge structures, and main drains in Pitt Meadows Area 2.	Design work continuing.
Township of Richmond	3.1	Upgrading of dykes, bank protection, drainage discharge structures, and main drains of that part of Lulu Island west of Queensborough.	This project is complete.
District of Matsqui	4.1	Upgrading of dykes, bank protection, draining discharge structures, and main drains in Matsqui Dyking District.	This project is complete.
	4.2	Extension of bank protection upstream of project 4.1.	This project is complete.
District of Chilliwack	5.1	Upgrading of dykes, bank protection, drainage discharge structures, and main drains for the District and Chilliwack Indian Reserves 3 and 4.	Design is complete except for the dykes through the Indian Reserve and south of Minto Landing. Dyke right-of-way through the Indian Reserves was not granted.
	5.2	Realignment of the dyke across Chilliwack Indian Reserves 3 and 4.	Detailed dyke design is suspended. A status report is being prepared.
	5.3	Dykes and bank protection to protect the District of Chilliwack and the District of Abbotsford from flooding by the Chilliwack-Vedder River.	This project is complete.
District of Delta	6.1	Upgrading of dykes, bank protection, drainage discharge structures, and main drains in Delta, including the Fraser, Tsawwassen Indian Reserve and Boundary Bay dykes.	Design of this project has been completed except for Boundary Bay Village.
	6.2	Upgrading of dykes, bank protection, drainage discharge structures, and main drains on Westham Island.	Design to full Program Standard has been deleted from the Program since the viability of the project could not be shown.
District of Mission	7.1	Reconstruction of dykes, bank protection, drainage discharge structures, and main drains in the Mission City area.	Design work continuing.

*See Note on final page of this table.

. . . . continued

TABLE I (cont'd.)

Local Authority	Project No.	Project Description	Progress for Final Design*
District of Abbotsford	8.1	Upgrading of Vedder Canal west bank dykes, the Sumas River dykes, bank protection, replacement of the Sumas Pump Station and Sumas River Dam.	This project is complete.
Village of Harrison Hot Springs	9.1	Upgrading of the Harrison Hot Springs dyke, pump station and the capacity of Miami Creek.	Design work has been postponed on this project.
District of Surrey	10.1	Repair of the Serpentine and the Nicomekl River dams.	This project is complete.
	10.2	Upgrading of the Mud Bay Dyking District sea dykes, to prevent flooding by the sea, provision of bank protection and upgrading of internal drainage work.	Design to full Program Standard has been deleted from the Program since the viability of the project could not be shown.
	10.3	Upgrading of flood protection works to prevent damage to land from internal damage flooding and flooding from the Serpentine and Nicomekl Rivers.	This project has been deleted from the Program as it could not be shown to be economically viable.
	10.4	Reconstruction of dykes and floodboxes in the South Westminster area.	This project is complete.
	10.5	Upgrading of the Crescent Beach sea dykes, their erosion protection and internal drainage works.	Design to full Program Standard has been deleted from the Program since the viability of the project could not be shown.
City of New Westminster	11.1	Upgrading of Lulu Island, Queensborough area dykes, bank protection and internal drainage works.	This project is complete.
District of Langley	13.1	A dyke, a Salmon River discharge structure and possibly main drain work on the floodplain.	Design work has not yet commenced on this project.
	13.2	Flood protection for other adjacent District of Langley undyked areas.	Design work has not yet commenced on this project.
	13.3	Upgrading of the Glen Valley Dyking District flood protection works.	Design work commenced.
District of Coquitlam and City of Port Coquitlam	14.1	Upgrading of Pitt River dykes, drainage discharge structures, and main drains protecting the City and the district south of DeBoville Slough.	This project is complete.
	14.2	Upgrading of Pitt River dykes, drainage discharge structures, and main drains protecting the District north of DeBoville Slough.	Design to full Program Standard has been deleted from the Program since the viability of the project could not be shown.

*See Note on page following.

. . . . continued

TABLE I (cont'd.)

Local Authority	Project No.	Project Description	Progress for Final Design*
	14.3	Proposed construction of works to prevent flooding from the Coquitlam River.	Design work has not yet commenced on this project.
District of Maple Ridge	15.1	Upgrading of flood protection works for several small dyked areas in the District.	Design to full Program Standard has been deleted from the Program since viability of the project could not be shown.
Province of B.C.	16.1	Upgrading of the flood protection works of Colony Farms.	Design to full Program Standard has been deleted from the Program since viability of the project could not be shown.
Department of Indian and Northern Affairs	17.1	Proposed construction of bank protection works on Seabird Island.	Based on estimated costs and benefits, further work cannot be justified on the basis of existing Program criteria.
Dewdney Area Improvement District	18.1	Upgrading of the Dewdney Area Improvement District flood protection works.	Bank protection design by the Province complete. Dyke design is complete.
East and West Nicomen	19.1	Upgrading of dykes, bank protection and internal drainage works in East and West Nicomen and I.R. 16, upstream.	Design work has been postponed on this project.
City of Kamloops	20.1	Upgrading and construction of flood protection works in the Oak Hills area on the west bank of the North Thompson River in the City of Kamloops.	This project is complete.
	20.2	Upgrading and construction of flood protection works in the remainder of the City and on the North Thompson, South Thompson and Thompson Rivers.	Design work has not yet commenced on this project.

*NOTE: It should be noted that the Project Description includes the reconstruction of main drains and pumphouses. This aspect of each project has been deferred for the time being except where construction has been commenced or drainage works are integral with a dyking system.

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Inland Waters and Lands
Environment Canada

CONSTRUCTION

The information given in the following area-by-area breakdown is for projects on which significant activity occurred during the year. The locations of these works are shown on the map at the end of this report.

Kent

Project No. 1 — District of Kent. The project originally consisted of 11.5 miles of dyking, 8 miles of bank protection, 3 pumping stations, 3 floodboxes and improvements to internal drainage.

Approval was obtained for $500,000 worth of additional work at site 'H' in the Harrison Mills area to improve bank protection. During the year $182,000 was expended to repair the most vulnerable areas. The site will be monitored to determine further erosion patterns.

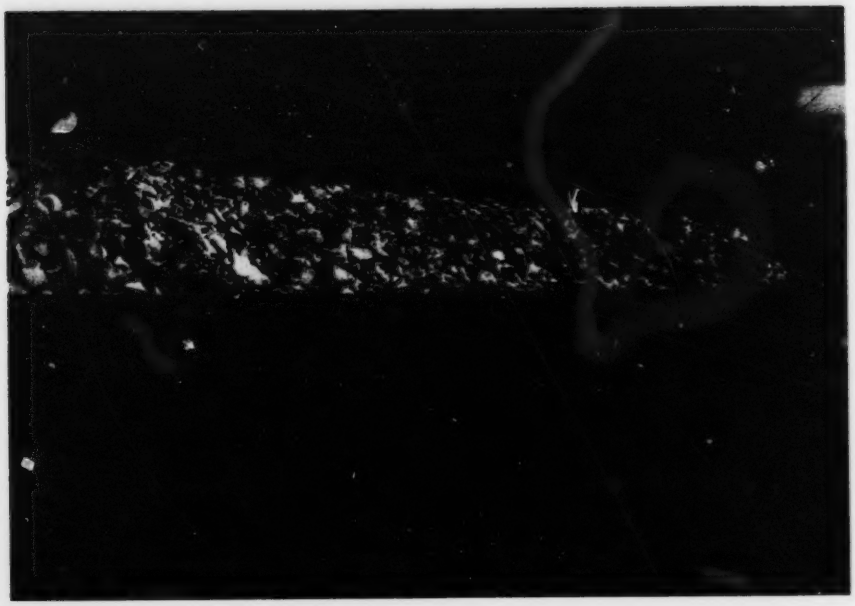
The Board also approved $100,000 for emergency bank protection work at site '7' in Kent. This work will be undertaken following the 1987 freshet.

Delta

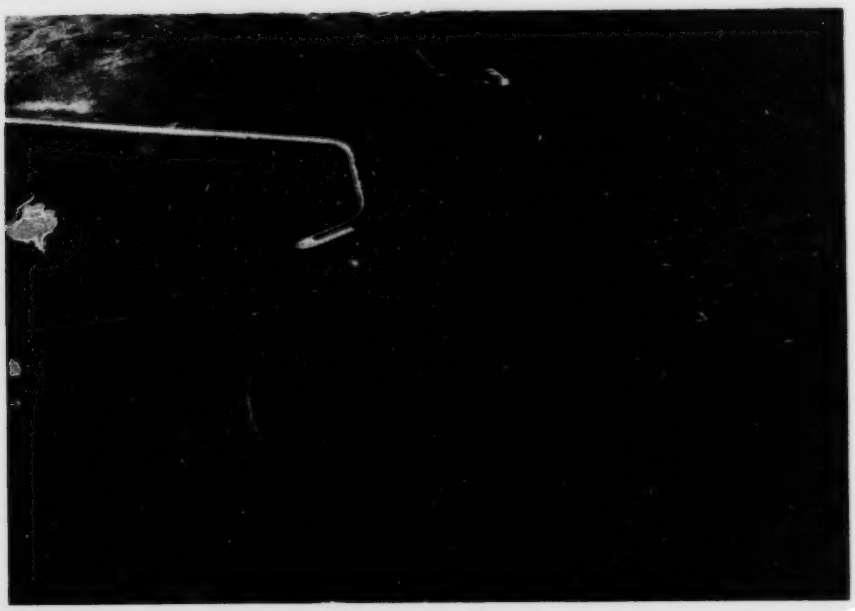
Project No. 6 — District of Delta. The project originally consisted of the rehabilitation of 27 miles of dyke, 8 miles of bank protection, 3 pumping stations and 12 floodboxes. The Delta project is now complete except for the Boundary Bay Village area.

Some mitigative work is still outstanding in the marsh at the Tsawwassen Indian Reserve dyke.

A report on alternative designs for flood protection in the Boundary Bay Village area was completed and presented to the council of Delta for their consideration.



KENT — Site 'H' bank protection improvements.



DELTA — Breakwater dyke at Tsawwassen Indian Reserve showing south drainage area and gap, which allows tidal flooding of the salt marsh.

Chilliwack

Project No. 5 — District of Chilliwack. The project originally consisted of 17.0 miles of dyking, 4.0 miles of bank protection and drainage improvements. This project was completed some years ago except for the section of dyke from Minto Landing to Chilliwack Mountain. A substantial portion of this uncompleted section is located within the Indian Reserve lands.

No decision has been made by the District concerning dyke alignment and the provision of the necessary additional funds to provide the alignment preferred by the District and by the Indian Bands.

A report on the feasibility of dyking from Minto Landing to Chilliwack Mountain was completed and was discussed by the Joint Advisory Board. Further studies are required and will be undertaken to determine the effect of an outside alignment on water levels upstream.

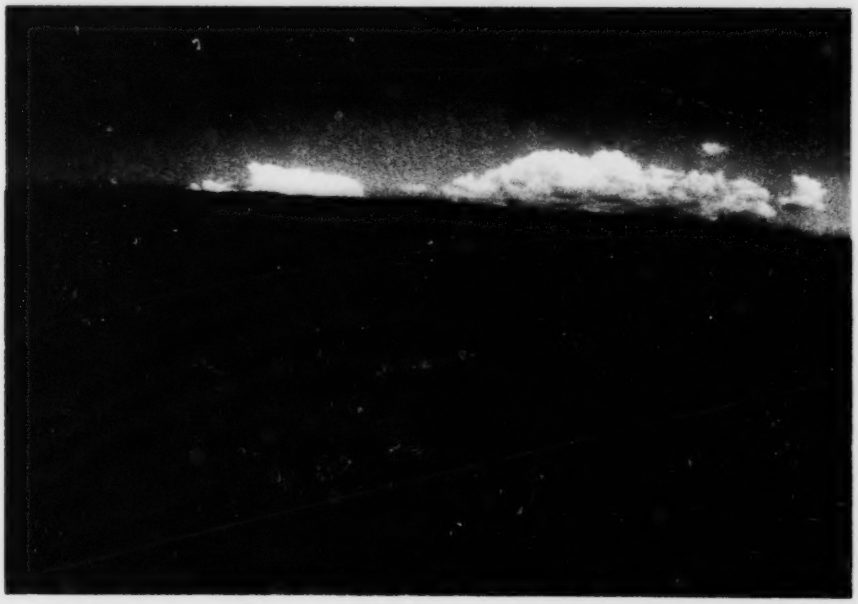
During the report year the Board approved $100,000 for the construction of bank protection at site '7' in Chilliwack. At year's end this work was substantially complete at a cost of $70,000.

Glen Valley

Project No. 13 — Glen Valley Dyking District. The project consists of the rehabilitation of 6.3 miles of dyke in the Glen Valley Dyking District.

Consulting Engineers have been retained for the design of the rehabilitation of the dykes with an anticipated start of construction during the 1988/89 fiscal year.

CHILLIWACK — Dyking for the Minto Landing to Chilliwack Mountain area awaiting further alignment study.



GLEN VALLEY — West wing dyke looking north along Nathan Creek under design for upgrading.

Dewdney

Project No. 14 — Dewdney Dyking District. This project consists of the reconstruction of 7.7 miles of dyke, 1.9 miles of bank protection, improvements to the Hatzic Slough dam and repairs to the existing floodbox.

Work was commenced on the dyke rehabilitation and bank protection. The expenditure for the fiscal year was $3.0 million. It is expected that the project will be substantially completed during the 1987/88 fiscal year.

Pitt Meadows No. 2

Project No. 2 — District of Pitt Meadows. This project consists of the reconstruction of 5.4 miles of dyke, 0.5 miles of bank protection and the replacement of one floodbox.

Two construction contracts were awarded, the first for the reconstruction of 2 miles of the dyke from Harris Road to McNeil Road and the second for the reconstruction of 2 miles of dyke from Harris Road to Richardson Road. A final contract is expected to be called in fiscal year 1987/88.

DEWDNEY — Placing bank protection along the Fraser River.

PITT MEADOWS No. 2 — Rehabilitated dyke nearing completion along the Alouette River.

Abbotsford

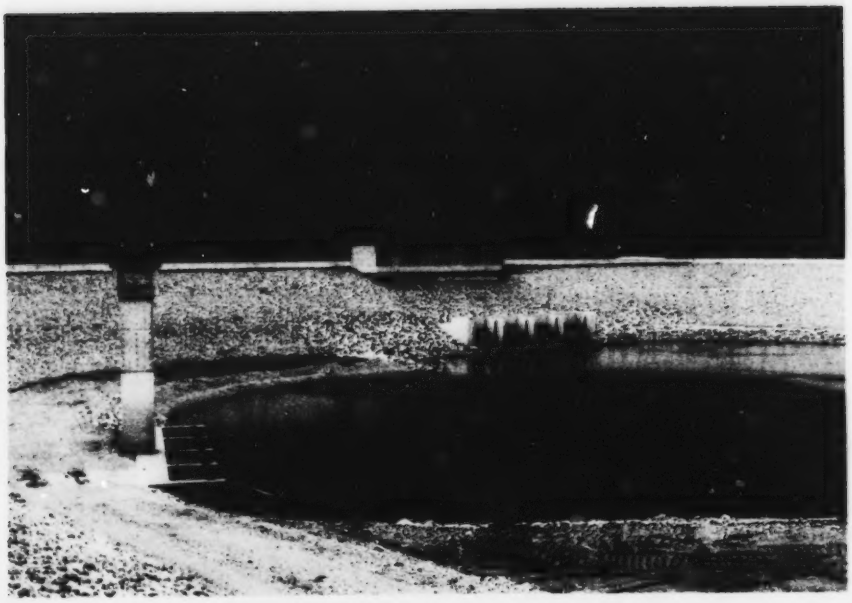
Project No. 8 — District of Abbotsford. This project, consisting of the construction of a new dam, pumphouse and floodbox on the Sumas River, together with the rehabilitation of the Vedder Canal dyke and the Sumas River dyke below the dam, was completed in 1985.

Some problems arose during the year with the pump outlet flapgates. The flapgates were repaired during the year on a cost-shared basis with the supplier and the Municipality for a total cost to the Program of $60,000.

Mission

Project No. 15 — District of Mission. A report by consulting engineers containing recommendations for the rehabilitation of the Mission dykes was submitted to the Board.

On the basis of this report project approval will be sought for a project estimated to cost $25,000.



ABBOTSFORD — Barrowtown pump discharge (left) and floodbox outlet (centre).

MISSION — Looking upstream. Dyke scheduled for upgrading to Program standards.

Emergency Work

At site 'G-1' in Kent the river also undermined the existing bank protection and $100,000 was approved by the Board for additional bank protection. This work will be undertaken after the 1987 freshet.

The Board also approved $100,000 for emergency bank protection at site '7' in Chilliwack. At the end of the report year this work was substantially complete at a cost of $70,000.

An additional $100,000 expenditure was approved during the year for emergency bank protection work at various locations.

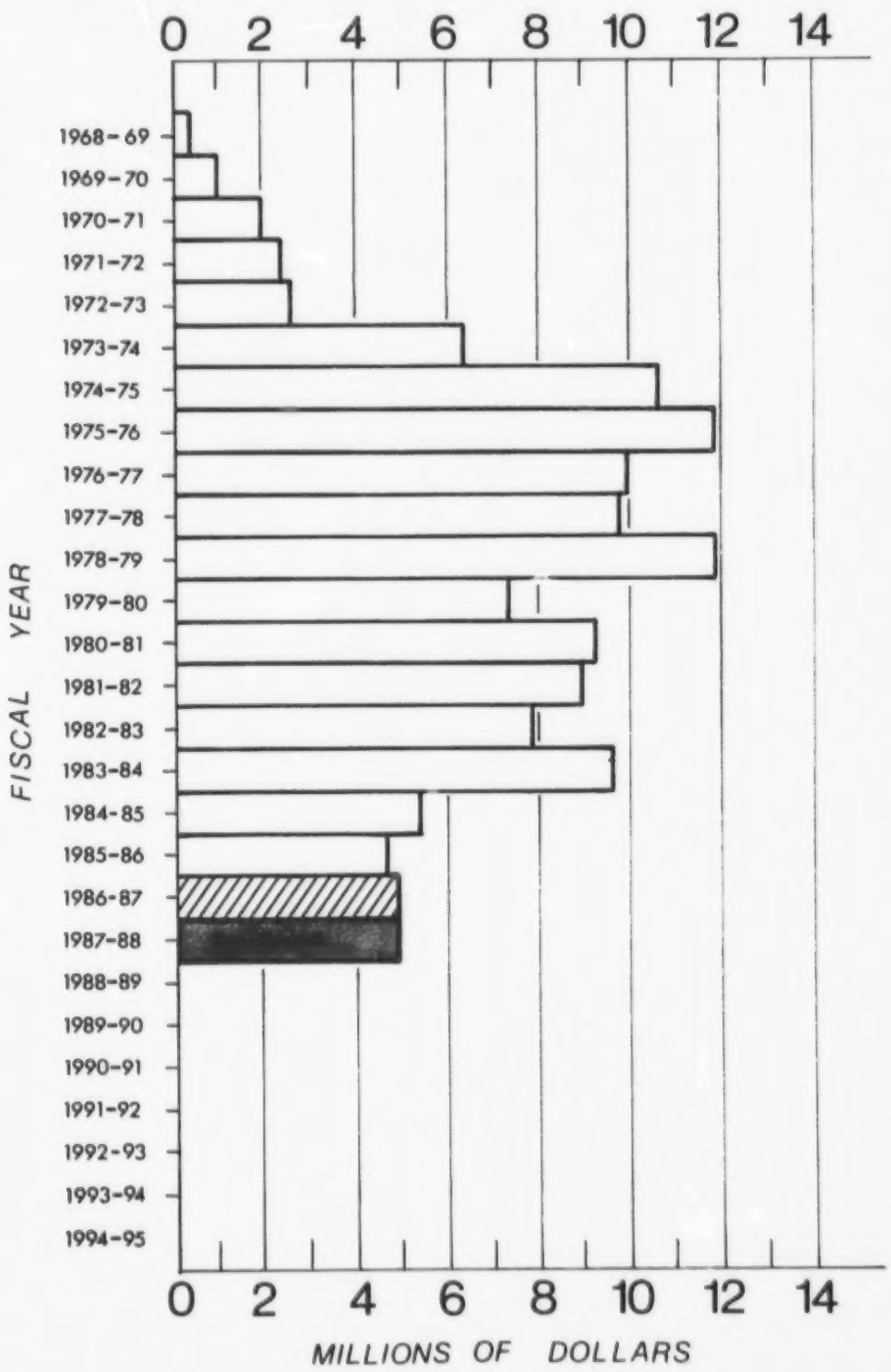
EMERGENCY WORK — Kent Site 'H' bank protection.

PROJECT APPROVALS

Projects that have.been approved for construction by the Board and Ministers as of the reporting date are listed under "Approved Funds" in the Summary of Expenditures in Table II on page 27.

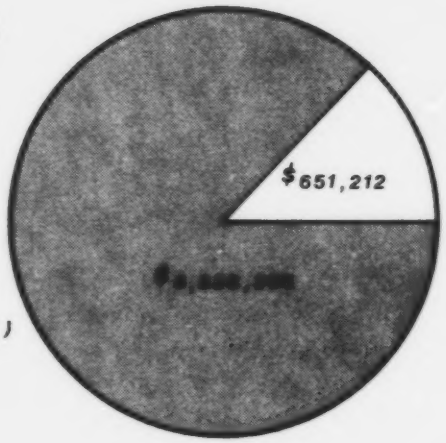
During the year approval was given for expenditures of: $100,000 for bank protection at site '7' in Chilliwack, $500,000 for bank protection at site 'H' in Kent, $100,000 for emergency bank protection at site 'G-1' in Kent and $100,000 for miscellaneous emergency bank protection.

ANNUAL EXPENDITURES



EXPENDITURES & BUDGET

Expenditures; Report Year 1986/87



ENGINEERING, DESIGN AND ADMINISTRATION *

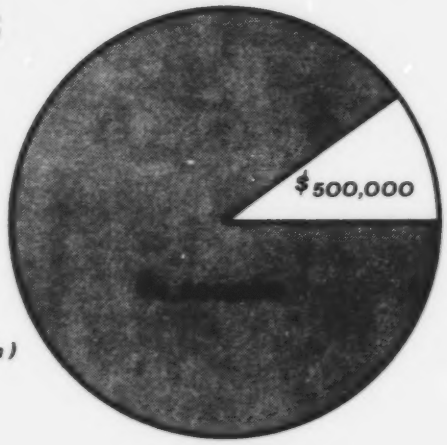
CONSTRUCTION (includes Emergency Work and site supervision)

TOTAL $4,987,577

Total Program Expenditures $ 124,417,140

(to March 31, 1987)

Expenditures; 1987/88



ENGINEERING, DESIGN AND ADMINISTRATION

CONSTRUCTION (includes Emergency Work and site supervision)

TOTAL $5,000,000

Total Authorized Funding $ 161,000,000

(to March 31, 1995)

* The excess of total expenditures over the total of approved funds shown on page 27 results from adding the administration expenditures to the design expenditures in the total. As program administration expenditures cannot accurately be apportioned between the individual projects as can the design expenditures, the former are not included in the individual project costs submitted to the Board for approval and are not therefore included in the total of approved funds.

TABLE II

SUMMARY OF EXPENDITURES

No.	Project	Approved Funds		Expenditures to March 31/87	Estimated Future Expend. escal. at 10% p.a.	Total Estimated Expenditures
		Amount	Total Approved Funds			
1.	District of Kent	2,003,825.00 200,382.50 483,000.00 50,000.00 * 100,000.00 * 76,000.00 * 82,000.00 * 50,000.00 * 43,404.00 * 241,500.00 * 50,000.00 * 460,000.00 100,000.00 * 500,000.00 *	4,440,111.50	3,944,496.00	455,504.00	4,400,000.00
2.	District of Pitt Meadows Maple Ridge	60,782.75 * 23,500.00 * 11,100,000.00	11,184,282.75	8,205,175.00	2,294,825.00	10,500,000.00
3.	Township of Richmond	12,983,500.00 5,536,000.00	18,519,500.00	18,470,517.00	—	18,470,517.00
4.	District of Matsqui	2,511,960.00 36,000.00 * 15,000.00 * 20,000.00 * 12,853.32 * 23,808.00 * 1,500,000.00	4,119,621.32 (797,000.00) **	4,089,586.00	—	4,089,586.00
5.	District of Chilliwack	5,847,435.00 2,425,782.40 70,100.00 * 20,000.00 * 50,000.00 * 100,000.00 *	8,513,317.40	6,524,969.00	2,075,031.00	8,600,000.00
5.1	District of Chilliwack Vedder River	1,213,250.00 25,924.50 * 6,325,000.00	7,564,174.50	7,525,778.00	—	7,525,778.00
6.	District of Delta	12,102,255.00 6,426,925.00 1,300,000.00	19,829,180.00 (568,814.00) °	15,838,020.00	2,861,980.00	18,700,000.00
7.	District of Mission	—	—	—	50,000.00	50,000.00
8.	District of Abbotsford	99,864.00 * 460,000.00 450,000.00 25,300,000.00	26,309,864.00	24,702,696.00	—	24,702,696.00
9.	Harrison Hot Springs	—	—	45,340.00	1,004,660.00	1,050,000.00
10. 10.1 10.2	District of Surrey Serpentine-Nicomekl Dams South Westminster	 1,201,750.00 5,500,000.00	 1,201,750.00 5,500,000.00	 1,175,254.00 4,550,553.00	 — —	 1,175,254.00 4,550,553.00
11.	City of New Westminster	2,919,486.00 332,434.00	3,251,920.00	3,181,299.00	—	3,181,299.00
14.1 14.2	City of Port Coquitlam & District of Coquitlam Coquitlam River	5,560,000.00 17,000.00 * —	5,577,000.00 —	3,967,795.00 —	— 6,000,000.00	3,967,795.00 6,000,000.00
17.	Seabird Island	40,000.00 * 85,520.90 * 30,000.00 *	155,520.90	138,844.00	—	138,844.00
18.	Dewdney Improvement District	10,000.00 * 7,125,000.00	7,135,000.00	2,975,388.00	3,024,612.00	6,000,000.00
19.	Nicomen Island Improvement District	100,000.00 * 50,000.00 * 2,500.00 * 3,500.00 * 15,000.00 * 30,000.00 * 50,000.00 * 60,000.00 * 3,000.00 * 856,750.00 * 357,075.00 * 437,000.00 *	1,964,825.00	1,901,045.00	—	1,901,045.00
20. 20.1	City of Kamloops Oak Hills	— 1,283,400.00	— 1,283,400.00	— 1,051,444.00	9,100,000.00 —	9,100,000.00 1,051,444.00
21.	Glen Valley	—	—	—	4,200,000.00	4,200,000.00
22.	Salmon River	—	—	—	50,000.00	50,000.00
Pre-Agreement Construction		210,092.62	210,092.62	—	—	—
Construction Cost Totals				108,288,199.00	31,116,612.00	139,404,811.00
Upstream Storage Cost Design & Administration Costs Miscellaneous Emergency Works Emergency Works		100,000.00	100,000.00 (3,398,082.17) °°	1,057,015.00 15,071,926.00 — (3,224,111.86)	— 5,466,248.00 — —	1,057,015.00 20,538,174.00 — (3,224,111.86)
TOTALS			126,859,559.99	124,417,140.00	36,582,860.00	161,000,000.00

* Emergency Work.
** Cost not shared by Federal Government and not charged to Program.
° Cost not shared by Province and not charged to Program.
°° These costs are included in the various projects.

NOTE: The amount shown under Approved Funds includes the 15% contingency allowance where necessary.

CONSULTANT SERVICES

Table III presents a list of consultants directly employed by the Province for the dyking program under the May 24, 1968 Agreement. The table indicates the assignments given to the consultants and the projects on which each consultant has been engaged.

TABLE III

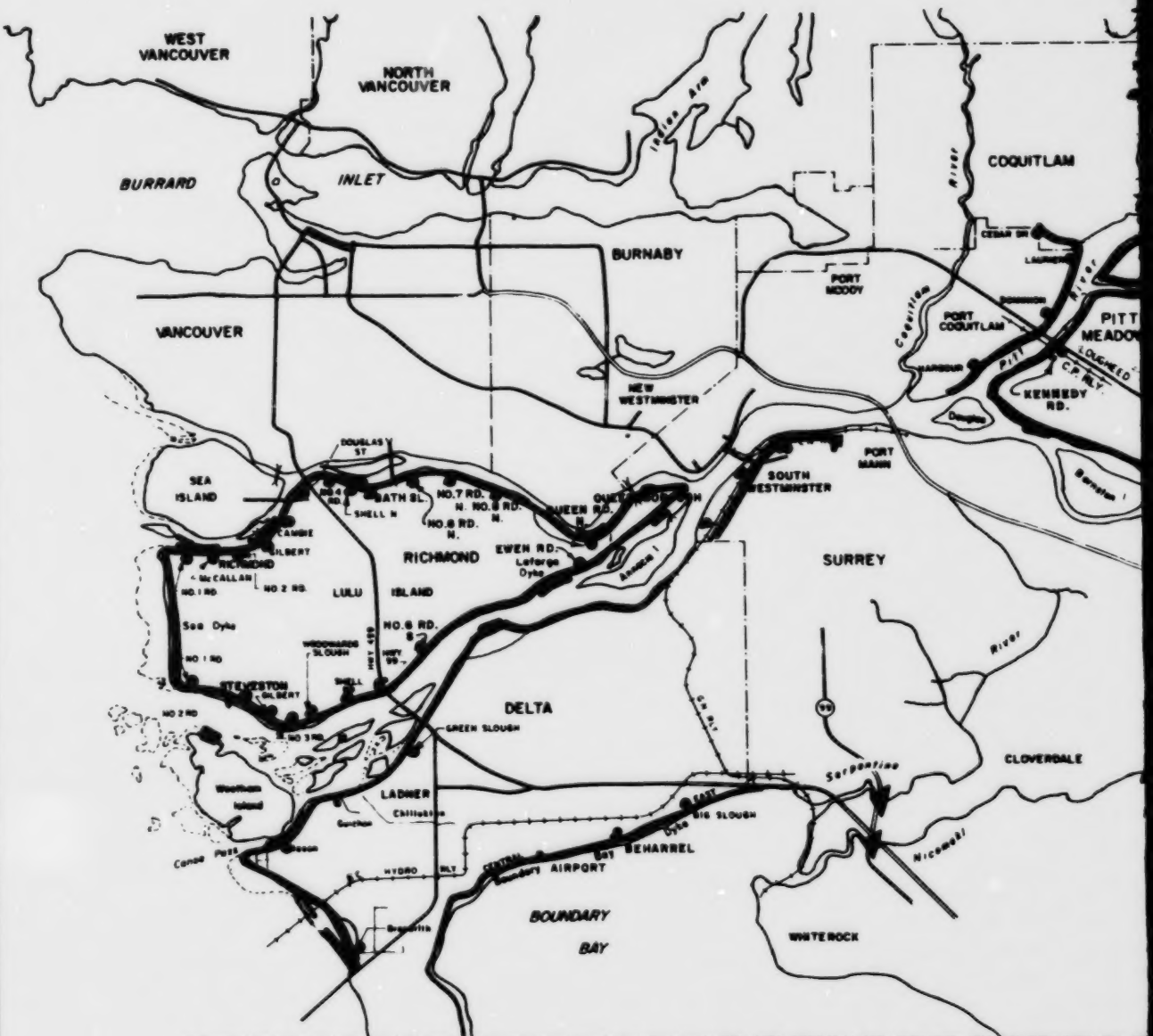
CONSULTANT SERVICES

Firm of Consultants	Assignment	Projects
Associated Engineering Services Ltd.	General engineering services for the design of dykes and internal drainage works, and supervision of construction.	Districts of Pitt Meadows, Matsqui and Delta, City of New Westminster, New Westminster (Queensborough area).
	Design and supervision of construction for rehabilitation of the Serpentine-Nicomekl River Dams.	District of Surrey.
	Assessment of the Sumas Dam and Pump Stations.	District of Abbotsford.
	Design of standard pump station.	General.
Murray & Associates	Legal surveys.	District of Delta.
CBA Engineering Ltd.	General engineering services for the design of dykes and internal drainage works, and supervision of construction.	Township of Richmond.
	General engineering services for design of dykes and internal drainage works.	District of Mission.
	General engineering services for design of dykes.	Glen Valley.
Golder, Brawner & Associates Ltd.	Consultant services for soils investigations with regard to dyke improvements and soil consultant services during construction.	Districts of Kent, Pitt Meadows, Matsqui, Mission, Delta, Surrey (Serpentine-Nicomekl Valley), and Coquitlam.
McElhanney Associates	Legal surveys.	District of Chilliwack.
Ripley, Klohn & Leonoff	Consultant services for soils investigations with regard to dyke improvements and soil consultant services during construction.	Township of Richmond, District of Chilliwack, Chilliwack Indian Reserves 3 and 4, Districts of Abbotsford (formerly Sumas), Surrey (South Westminster area) and S. Dewdney Dyking District.
	General engineering services for design of dykes.	
Willis Cunliffe Tait & Company Ltd.	General engineering services for the design of dykes and internal drainage works, and supervision of construction.	Districts of Kent and Chilliwack.
	Preliminary design and cost of alternative proposal for the Hope Slough pump station.	District of Chilliwack.
Piteau Gadsby MacLeod Ltd.	General engineering services for design of dykes and internal drainage works, and supervision of construction.	City of Kamloops (Oak Hills dyking project).
Tunbridge & Tunbridge	Legal surveys.	District of Kent.
Willian Ker	Legal surveys.	District of Matsqui.
F.R. Bonn	Legal surveys.	District of Matsqui.

TABLE III (cont'd)

Firm of Consultants	Assignment	Projects
Cook Pickering & Doyle Ltd.	Consultant services for soils investigations with regard to dyke improvements and soil consultant services during construction.	District of Chilliwack.
Crippen Consultants	General engineering services for design of dykes and internal drainage works, and supervision of construction.	District of Coquitlam and City of Port Coquitlam, Districts of Surrey (South Westminster area), and Abbotsford.
Western Canada Hydraulic Laboratories Ltd.	Assessment of the fluvial geomorphology of the Vedder River.	District of Chilliwack, Vedder River Project.
Rivers Section Water Management Br. Ministry of Environment and Parks Province of B.C.	Detail design of Phase III — Setback Dykes, and supervision of construction. Design and supervision of bank protection.	District of Chilliwack, Vedder River Project. Districts of Chilliwack, Kent and Delta, Nicomen Island Dyking District, Township of Richmond, City of New Westminster (Queensborough).
Hills Consulting Services Ltd.	Geotechnical advice for setback dykes.	District of Chilliwack, Vedder River Project.
Interwest Property Services Ltd.	Responsible for negotiations and land purchase for the Vedder River Project.	District of Chilliwack, Vedder River Project.
Alland and Ashford	Investigation and design for reconstruction of the Duncan-Bateson Floodbox.	District of Kent.
Sandhill Swan Wooster Inc.	Assessment of river dynamics in the Harrision Mills area.	District of Kent.

MAP OF L


WEST VANCOUVER
NORTH VANCOUVER
BURRARD
INLET
Indian Arm
COQUITLAM
BURNABY
VANCOUVER
PORT MOODY
PORT COQUITLAM
Coquitlam River
Pitt River
KENNEDY RD.
NEW WESTMINSTER
SEA ISLAND
DOUGLAS ST.
BATH SL.
NO.7 RD.
NO.6 RD.
QUEENSBOROUGH
QUEEN RD.
PORT MANN
SOUTH WESTMINSTER
RICHMOND
EWEN RD.
Laforge Dyke
SURREY
LULU ISLAND
NO.1 RD.
NO.2 RD.
Sea Dyke
NO.6 RD.
WOODWARDS SLOUGH
STEVESTON
GILBERT
DELTA
GREEN SLOUGH
LADNER
Chilliwack
Fraser River
CLOVERDALE
Serpentine
BIG SLOUGH
BEHARREL
AIRPORT
HYDRO
BOUNDARY BAY
WHITEROCK

MAP OF LOWER FRASER VALLEY SHOWING FLOOD CONTROL WORKS UNDER CONSTRUCTION
FOR THE PERIOD APRIL 1, 1986 to MARCH 31, 1987